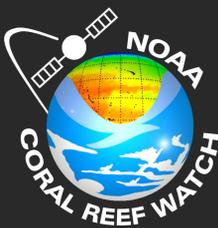




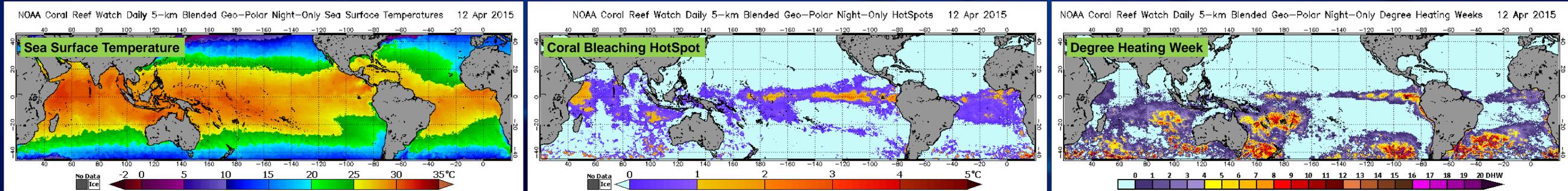
# Addressing User Demands: Enhancing NOAA Coral Reef Watch's Satellite Decision Support System for Coral Reef Managers

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NOAA/NESDIS/STAR, Global Science & Technology, Inc.



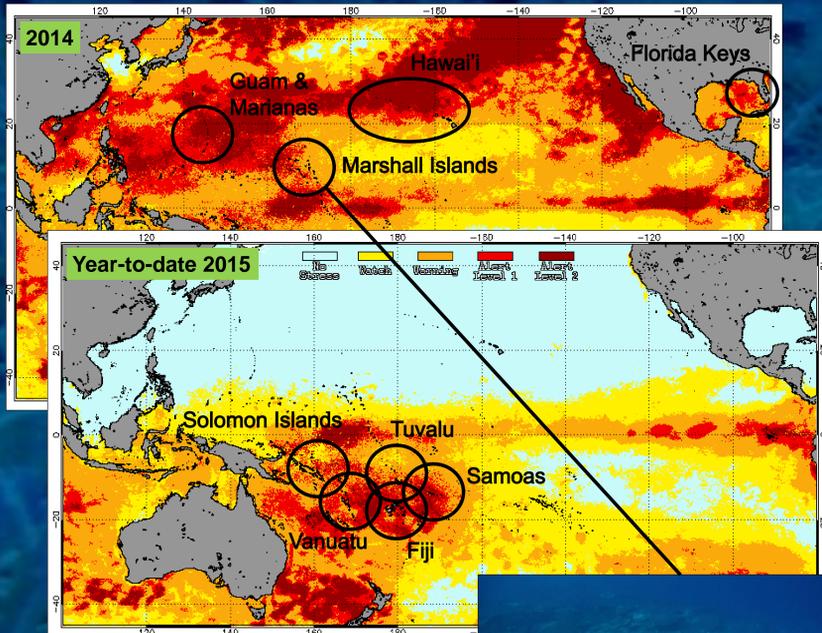
With support from the NASA Applied Sciences Biodiversity and Ecological Forecasting program and NOAA's Coral Reef Conservation Program, NOAA Coral Reef Watch (CRW) has developed and implemented a next-generation near-real-time satellite decision support system to monitor conditions leading to coral bleaching. New products transition the CRW global system from 50-km to 5-km resolution, with 100x greater spatial resolution and 25-100x greater data density per pixel. These products are moving toward operational status at NOAA's National Environmental Satellite, Data, and Information Service and are already being applied by marine managers in the field. We look to combine 750-m VIIRS SST, 2-km Himawari-8 and GOES-R SST data to develop regional 1-km products for the Coral Triangle and Australia's Great Barrier Reef.

## New 5-km Coral Reef Watch Early Warning System for Mass Coral Bleaching Events (Next-generation system: 5-km, daily)



### Major Bleaching 2014 - 2015

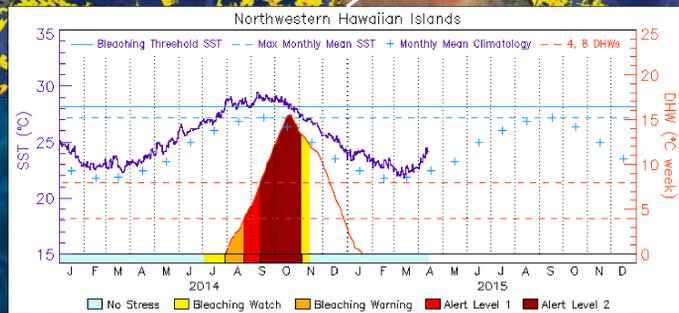
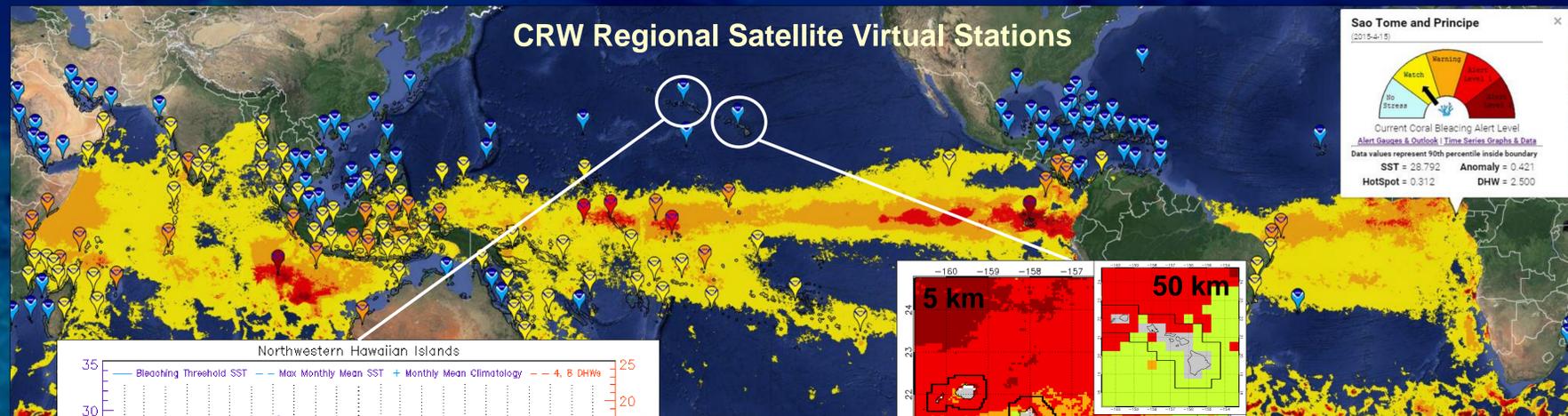
Annual Maximum Satellite Coral Bleaching Alert Area



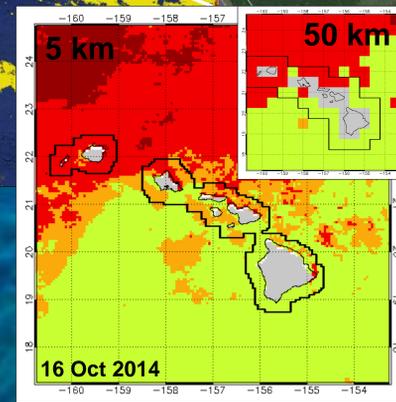
► Bleaching Alert Area product provides direction and support for in-water reef surveys. The surveys confirm the accuracy of predictions.



**Acknowledgements:**  
Additional collaborations with Frank Muller-Karger with the University of South Florida and Liane Guild with NASA AMES for development of 5-km products.

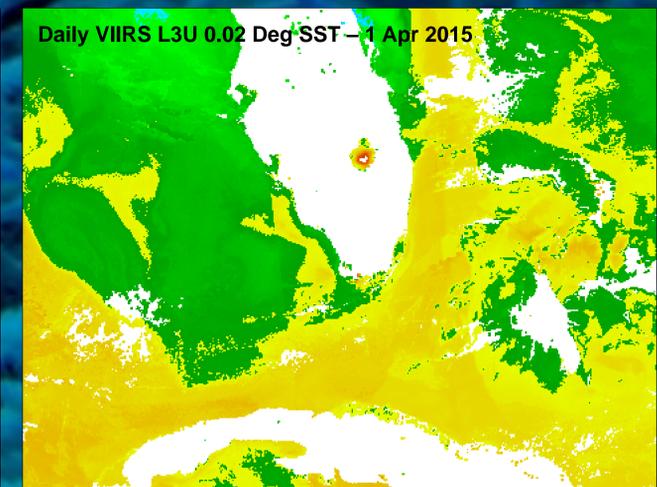
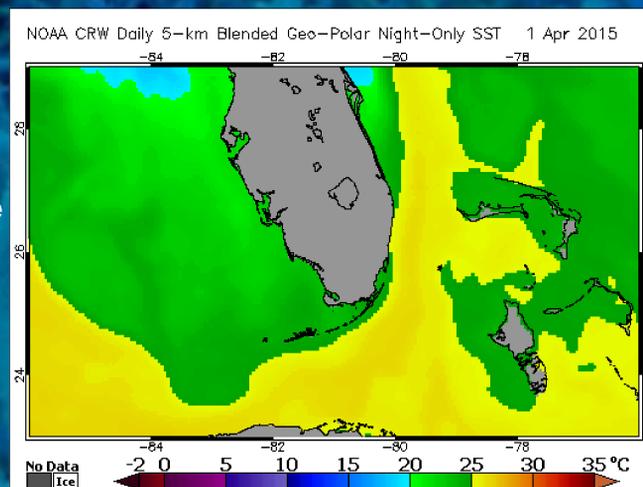


◀ This Regional Virtual Station captures details of 2014 Hawaii's bleaching event.



◀ 5-km CRW products provide new perspective on bleaching at or near reef scale over the heritage 50-km products.

► CRW utilizes NOAA's operational 5-km Geostationary-Polar Blended SST Analysis. Blended satellite data are essential for reliable gap-free analysis.  
► CRW will develop reef-targeted 1-km products by blending 750-m VIIRS SST with 2-km Himawari-8 and GOES-R SSTs.



<http://coralreefwatch.noaa.gov>

The only satellite-based system available for U.S. and global coral reef management



**Coral Reef Watch:** a NOAA/NESDIS program, funded predominantly by the NOAA Coral Reef Conservation Program (CRCP), integrates scientists from the Center for Satellite Applications and Research (STAR) and the Office of Satellite and Product Operations (OSPO).